CLAIMS

1. A radio transmission apparatus that transmits a radio signal consisting of a plurality of subcarriers, comprising:

a modulator that modulates transmission data using a first modulation scheme to obtain first modulated data and modulates the transmission data using a second modulation scheme of a higher M-ary number than said first modulation scheme to obtain second modulated data;

a spreader that spreads said first modulated data to obtain a plurality of first chips and spreads said second modulated data to obtain a plurality of second chips; and

a mapping unit that maps said first chips on a plurality of first subcarriers mapped in a frequency domain and maps said second chips on a plurality of second subcarriers mapped in a time domain.

2. The radio transmission apparatus according to claim 1, wherein said mapping unit maps said first chips on both said first subcarriers and said second subcarriers.

3. The radio transmission apparatus according to claim 1, wherein said mapping unit uses subcarriers having propagation channel quality lower than a predetermined level as said first subcarriers.

4. The radio transmission apparatus according to claim 1, wherein said mapping unit uses subcarriers having propagation channel quality equal to or higher than a predetermined level as said second subcarriers.

5. A radio reception apparatus that receives said radio signal transmitted from the radio transmission apparatus according to claim 1, comprising:

a despreader that despreads said first chips to obtain said first modulated data and despreads said second chips to obtain said second modulated data; and

a demodulator that demodulates said first modulated data using said first modulation scheme and demodulates said second modulated data using said second modulation scheme.

6. A radio transmission method for transmitting a radio signal consisting of a plurality of subcarriers, comprising the steps of:

modulating transmission data using a first modulation scheme to obtain first modulated data and modulating the transmission data using a second modulation scheme of a higher M-ary number than said first modulation scheme to obtain second modulated data;

spreading said first modulated data to obtain a plurality of first chips and spreading said second modulated data to obtain a plurality of second chips;

and

mapping said first chips on a plurality of first subcarriers mapped in the frequency domain and mapping said second chips on a plurality of second subcarriers mapped in the time domain.